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XF4DL—DXpedition to Socorro Island, Revillagigedo Group

By: Juergen Sturhahn, DL8LE

Revillagigedo (XF4) belongs to one of the most wanted DXCC entities. In 2005's "Most Wanted Survey" it was rated #16 in Europe and #35 in the Worldwide "weighted" category. Last year's DXpedition to Revillagigedo did little to satisfy the existing demands, especially from Europe. Therefore, it was somehow natural that the question came whether there would be a chance to get the necessary permissions to operate from XF4 yet again. This was in early 2005, and after some discussion there was a decision to start this enterprise.

The first information by Ramon, XE1KK, about the requirements to get the permission of the Mexican licensing authorities (COFETEL), was disillusioning—no licenses for foreigners to work from one of the Mexican islands were to be granted unless the teams were comprised of more than 50% Mexican team members. In addition to those requirements there were other limitations from other Mexican authorities, which turned out to be not eas-



This team weathered Hurricane Paul under the INDEXA banner to give many of us a "new one".

ily overcome. With the extraordinary support of Ramon, XE1KK, and Marianne Kentzler, General Manager of VOGT Electronic de Mexico, however, both working very closely together with Rafael, XE1GRR, all necessary permissions were granted and we were able to plan for a DXpedition in October/November 2006. Many faxes, phone calls, and emails determined

that we needed to obtain:

- o COFETEL licensing to work as XF4DL from Socorro Island and as XF4K from Clarion Island
- o Landing permission from the Mexican Navy
- o Approval of the Mexican Navy to transport all material by one of their ships and to stay in one of their buildings

(Continued on page 2)

(Continued from page 1)

on Socorro Island as well as to set up a second operation site
o Permission of SEMARNAT, the Mexican equivalent to the US Fish and Wildlife Service
o Permission of SECRETARIA DE GOBERNACION, a government authority belonging to the Mexican Ministry of the Interior

Ramon also helped to set up the team by establishing the initial contact between DL8LE and XE2K, who recruited participation from a few more Mexican Hams, in particular XE1AY, XE1GRR and XE1UN. These three—in the end—spent a lot of their time working on the organization and planning of the DXpedition in Mexico with the support of XE1KK. Marianne, on the other hand, also organized all the logistics, including import, export, and transport of several tons of material, a support which cannot be valued high enough.

The planned duration of the DXpedition was determined by the Navy transportation schedule. Together with the uncertainties caused by unknown weather conditions we needed to reserve a minimum of 3-1/2 to 4 weeks free time for the team members to be able to comply with the DXpedition “window”. After several iterations the team consisted of the following members:

DF7TH, DJ5IW, DK2WV, DL1YFF, DL3DXX, DL8LE, XE1AY, XE1FRF, XE1FXF,

XE1FXM, XE1FXZ, XE1GRR, XE1MMB, XE1UN, XE2K. The team was completed by the pilots DL5NAM and XE1YJS and the QSL managers DL9NDS and N6AWD.

The DXpedition was scheduled for a time near the minimum of the present sun spot cycle. In order to compensate for the difficult propagation conditions we planned to use two operation sites. One was in the camp of the Mexican Navy on Socorro Island, and the other on the former radar site near the air strip, a location on a mesa more than 300 m above the sea level of the Pacific Ocean with free view between 0° and 180°. We also planned to use digital modes like PSK31 and PSK63 with programs like WinWarbler by AA6YQ or Multipsk by

F6CTE. We believed the multi-channel decoding capabilities of these products would provide a better opportunity, especially for the “little pistols”, to have a contact with XF4DL. The necessary interfaces were provided by microHam.

The location of the Navy camp would not permit low angle radiation towards Europe or North America so it was mandatory to plan with good antennas as well as with reliable power amplifiers. In that respect we had excellent support by Alpha Radio Products, which provided an Alpha 99 and an Alpha 8100 as well as a 6 m amplifier. During the operation, even with the low power line voltage of 110 V, we had a solid and very reliable continuous output of more than 1 KW under the heavy duty cycle of two weeks continuous usage under pile up



Pictured above is some of the material which had to be transported across the decks of three other ships to our ship, the Vallarta

(Continued from page 2)
conditions.

The detailed planning of the operation ended up with more than five tons of material (including 1800 liters of gasoline, 3 generators, several hundred liters of drinking water, aluminium tubes for multi-element monobanders from 6 to 40 m and more than 70 m of tower sections or aluminium towers). All this material needed to be transported, more or less manually, across three other Navy ships to the "Vallarta" which was to carry us between Manzanillo and Revillagigedo. Upon arrival, this same material had to be moved from the "Vallarta" down to smaller boats which finally did the landing on the island. This exercise was an excellent example of how well a multinational team, which had come together in Manzanillo the first time, was able to cooperate very effectively.

The first station was set up in the Navy camp on Socorro Island, and the first QSO in the

log was on Oct 18 at 2327 UTC with W6TP on 20 meters SSB. The pile up was as huge as expected and QSO rates were running between 120 and 160 QSO's per hour.

Setting up operation Site Two at the former radar site turned out to be quite difficult. The transport of the material was time consuming due to the very poor "road" conditions between the camp and the site, and the existing small hut was heavily damaged. Some small animals were enjoying the hut and the heavy wind was continuously carrying red volcanic dust through the open window panes—not the nicest environment for sensitive electronic equipment.

Despite those unpleasant conditions the first radio at Site Two was operational after more than 24 hours of hard work. Special recognition is due to our Mexican team members who were very innovative in working around all our difficulties. After all antennas, generators, stations, sleeping tents, and—not to forget—cooking facilities had been set up, the weather started to become progressively worse and hurricane Paul began approaching Socorro Island. For safety reasons, the Commanding Officer requested that the



Site Two's "radio shack" tended to collect red volcanic dust very effectively!

team dismantle operation Site Two completely as soon as possible and evacuate to the Navy camp.

The team in the Navy camp was working hard to protect the equipment as well. Unfortunately we were unable to disassemble the three element 20m beam, the Titanex V80 and the Butternut HF9V in the time left before the storm hit the island. After the hurricane the 20 m beam elements had a nice V-shape, but the verticals didn't show any problem despite very serious bending of the upper portions which were not guyed. Interestingly, even in the middle of the hurricane, when we were unable to move

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(Continued on page 4)

(Continued from page 3)

outside the building to use a satellite phone, we could communicate with the outside world via e-mails using PACTOR III and Winlink. It is worth mentioning that the SCS PTC II provided a reliable communication link to a PACTOR gateway in southern California, and there were hundreds of e-mails transferred between the team and recipients all over the world.

In the unsettled conditions following the hurricane, the probability of another tropical storm developing into another hurricane was quite high. The Commanding Officer therefore denied us permission to operate from any site other than from the Navy camp. However, he assigned us a building about 400 meters away from operation Site One for setting

up another station. The propagation from that site to EU and NA was extremely poor because the antennas were beaming against the surrounding hills. Nevertheless, it was possible to have some nice contacts with EU and NA on 30m from that site as well. At new operation Site Two we also installed the antennas for satellite communication and for 6 m EME. Due to power line problems we were unable to work on 6m EME.

XE1GRR, XE2K and DL8LE went to Clarion Island, IOTA NA-115, which is about 400 km west of Socorro, at the end of the operation and worked there for some hours under the call XF4K. The last QSO in the XF4DL log was with WO7Y on Nov 5, at 1234 UTC, on 40meters CW.



Due to the short operating time on Clarion Island, the XF4K operation was, er.....somewhat makeshift.

Enumerated in Table 1 on Page 5 are the operating statistics for the DXpedition. We were pleased with a good ratio between CW and SSB, but it became very clear during the operation that PSK is not as popular as RTTY and the target to promote PSK63 because of its far better characteristics compared to RTTY was not achieved. There were mainly some JA's and UA's working PSK63, and it was a real pleasure to see how the QSO rate increased with this mode compared to previous RTTY QSO's, but we stopped using that mode after calling CQ without any response. It seems that people will not try to use that mode as long as RTTY is still offered by a DXpedition.

The QSO's by continent are shown in Table 2, also on Page 5, overleaf. The majority of QSO's were with NA because of its proximity. We were not satisfied with the number of QSO's with Europe where XF4 is in high demand. The main reason is the difficult



Following the hurricane, the team set about operating in its alternative operating site.

(Continued on page 5)

Band	SSB	CW	RTTY	PSK31	PSK63	FM/ SSTV	Total
160m	584	2457	0	0	0	0	3041
80m	2512	4132	0	0	0	0	6644
40m	3275	4939	293	282	0	0	8507
30m	0	5173	324	423	63	0	5842
20m	9124	4193	1193	138	68	34	15035
17m	3363	3548	1557	59	61	0	8667
15m	5438	2540	0		0	0	8037
12m	1001	801	0	0	0	0	1802
10m	913	123	0	0	0	0	1036
2m	3	0	0	0	0	0	3
70cm	0	0	0	0	0	18	18
Totals	26213	27906	3367	902	192	52	58632

Table 1 — Contacts by Band/Mode for Revillagigedo DXpedition

Continent	%
Asia	22.4
Europe	16.6
North America	56.4
South America	2.6
Africa	0.5
Oceania	1.5
Antarctica	1 QSO

Table 2 — Contacts by Continent

propagation path through the auroral zones, especially the path to stations in North and Eastern Europe. Also, our inability to use the former radar site as planned was a big setback. Overall, the team is proud for the total QSO number achieved in the minimum of a sunspot cycle and under quite tough environmental conditions.

We would be remiss if we did not mention the splendor of the

Revillagigedo Group. The photo below captures some of that splendor.

We would like to thank all our sponsors—companies, organizations, and individuals alike. Without their help and support the DXpedition would not have been possible. —73 Juergen

Propagation Visualized

By John Scott, K8YC
INDEXA Editor

All hams have some knowledge of propagation even if only from preparing for our licensing exams.

Recently, I noticed both the 1A4A and VU7RG DXpeditions had a series of very nice graphical presentations of expected propagation based on both band and time of day. A query to I4UFH of the 1A4A team as to the origin of these maps brought a quick reply. The product producing these wonderful maps is **HAM CAP**, a freeware program produced by Alex, VE3NEA.

VE3NEA has written a Windows-based Graphical User Interface to VOACAP. VOACAP was originally a mainframe based derivative of IONCAP, another mainframe product. To use **HAM CAP** you must also download the free version of VOACAP, but that's the last you'll see of VOACAP in ac-

(Continued on page 6)



(Continued from page 5)

tual use. Once all is installed, all one need do is to start Ham Cap, insert the coordinates of your QTH, the smoothed sunspot number or planetary K-index (available from the World Wide Web) and you'll be able to see expected propagation to anyplace in the world for any band of your choosing by time of day.

Entering the IARU prefix of a chosen DX location will draw the LP or SP path on top of the propagation plot. It's your choice. You can even "fast forward" through a day to see how propagation

changes hour by hour as the sun transits the face of our Earth. This would even be a wonderful tool for teaching licensing classes about propagation!

The old adage, "One picture is worth a thousand words." is certainly true in helping you to understand propagation, and HAM CAP will give you that picture. The URL to find out more about HAMCAP is: <http://www.dxatlas.com/HamCap/>

If you find this program as useful as I think you will, drop me a line to let me know. —73, K8YC

Next Issue.....

With the scarcity of activity caused by our solar minimum, ensuring a steady stream of material of interest to the membership can be difficult. Fortunately, next issue we expect to be able to bring you a report by Elmo Coll, EA5BYP on his 2006 DXpedition to Anobon Island, 3C0M. We'll see you then!

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